Fact Sheets

SRS

H Canyon

H Canyon is one of two chemical separations areas at the Savannah River Site (SRS). The facility's operations historically recovered uranium-235 (U-235), the fuel source for nuclear reactors, by a chemical separation process to recover and recycle usable U-235 from aluminum-based enriched-uranium fuel rods from site reactors and other domestic and foreign research reactors.

In addition, H Canyon was equipped with capabilities to recover neptunium-237 (Np-237) and plutonium-238 (Pu-238) from the reactor fuel and special irradiated targets. Pu-238 is used in power systems for the U.S. deep space exploration programs. Pu-238 was produced by irradiating recovered Np-237 in SRS production reactors.

H Canyon was constructed in the early 1950s and began operations in 1955. The building is called a canyon because of its long rectangular shape. It is 835 feet long with multilevels to accommodate the various stages of material stabilization including control rooms to monitor overall equipment and operating processes, equipment and piping gallery for solution transport, storage, and disposition, and unique overhead bridge cranes to support overall process operations. All work is remotely controlled, and employees are further protected from radiation by thick concrete walls.

Nuclear material (fuel rods, oxides, etc.) is transferred from designated storage areas from across SRS to H Canyon, converted to solution and transferred through various process stages where uranium, neptunium and plutonium are separated. Contaminants are removed, and the product is purified. Waste is transferred to the site's high-level waste storage tanks for eventual vitrification in the Defense Waste Processing Facility at SRS.

In 1992, the Department of Energy (DOE) concluded that recovery of enriched uranium for reuse in weapons programs was no longer justified because of the reduction in the nation's nuclear weapons stockpile. While recovery of enriched uranium for reuse in nuclear weapons stockpile is no longer needed, there is an inventory of highly enriched uranium fuels and solutions in various stages of the SRS process.

Between December 1995 and October 1997, DOE issued a series of decisions to resume chemical separation operations to stabilize and manage most of the remaining inventory of highly enriched uranium (HEU) materials at SRS. H Canyon will also be used to support stabilization of a number of plutonium solids currently stored in F Area vaults.